

### REMARKS

Applicant is hereby submitting a Terminal Disclaimer to moot the double patenting rejection over the co-pending Application No. 11/212,801.

Claims 1-11 were contended to be completely anticipated by *Murase et al.* (U.S. Patent No. 5,907,658) which is owned by the same applicant of the present application.

As noted in our Description of Background Art, on Page 1, Lines 15-28, an interactive control in a DVD reproduction apparatus where a button had a color of a frame of the button changed in accordance with a user operation is known, thus enabling the user to recognize a selected state of the button in an interactive display, which is also the basic disclosure in the *Murase et al.* reference. See Figure 10b of *Murase et al.* where the status of the YES button is determined and derived from the highlight information in a PCI packet management information in the data stream.

The ability to provide recording mediums with expanded memory capacity also provides an opportunity to add additional features that can be enjoyed by the consumer. Our present invention is directed to the ability to provide an animation in the form of discrete menu buttons that can be overlaid on a motion picture to enable an interactive display with amusing capabilities for the user. However, even utilizing a Blu-ray disc pre-recorded format for provision of an animation display for the buttons in a menu can conventionally incur a large amount of decoding load on the processor, with a resulting problem of an extended waiting time before an initial display of the interactive animated buttons can be realized.

Reference can be made to Figure 17 of our present drawings to appreciate the utilization of "button animation in the form of a graphic user interface (GUI) that is capable of displaying

button material in, for example a two to three second animation period in one of three separate states, a normal state, a selected state and an active state.”

When each button material is a different character that appears in a movie and the animation is movement by the character illustrated in the button material, the user can change the movements of the character by performing an operation with respect to the interactive display. Displaying animation in this manner creates an interactive display that can be enjoyed by children.

While this kind of button animation incorporates elements of play into interactive control, its shortcoming is a highly increased processing load for decoding when displaying the graphics. Even if using a “skipping display” which displays one page of graphics data once every five frames of video signal, approximately 30 pages of graphics data will need to be displayed to realize 2-3 seconds of animation in the button animation. Furthermore, since the button materials have three states (normal state, selected state and active state), the number of pages of graphics data to be displayed will be in the order of 90 ( $=3 \times 30$ ). When there are four of the same kind of buttons on the interactive display as shown in Figure 16, the number of pages to be displayed will be in the order of 360 ( $=4 \times 90$ ), which is a large amount of graphics data to be decoded. This means that significant time will be taken before an interactive display is actually realized.

As a breakthrough with respect to the reduction of operability in this kind of button animation, the recording medium of the present invention is specified by the following technical items.

A recording medium comprising:

a graphics stream which represents an interactive display including a plurality of graphical button materials to be overlaid with a motion picture, wherein:

said graphics stream includes a plurality of graphics data sets each forming a group of graphics data which renders a predetermined state of said graphical button materials; and

said plurality of graphics data sets respectively render different predetermined states of said graphical button materials.

With the above stated structure, when a graphics data set is read by the reproduction apparatus, the graphics data is successively supplied to a graphics decoder which is a hardware resource in the reproduction apparatus. The graphics data is subjected to decode processing by the graphics decoder, and an interactive display is generated in a plane memory which is a hardware resource in the reproduction device. Each graphics data expresses a respective state of button materials that compose the interactive display. The graphics data groups are arranged in an order such that the earlier the state corresponding to any given graphics data group appears in the interactive display, the earlier that graphics data group is in the order. Therefore, the earlier the state corresponding to a graphics data group appears in the interactive display, the earlier that graphics data group is provided to the graphics decoder.

Arranging the graphics data groups in this way enables them to be provided to the decoder earlier, and therefore the interactive display can be presented earlier. See specification Page 3, Line 13 to Page 4, Line 17.

The *Murase et al.* reference represents technology from 1995 that was able to take advantage of DVDs with expanded memory in optical disks. As can be seen from the specification and drawings, the capacity for interactive features between the user and a DVD player are enhanced by permitting seemingly real time branching upon activation of a user control without generating an interruption in the moving picture reproduction, while at the same time the capacity of the memory requirements of the reproduction apparatus or DVD player can be economically reduced. See Column 5, Lines 51-66.

The Office Action specifically noted a presentation of graphical button material directly overlaid with a motion picture, with a reference specifically to Figure 8. However, Figure 8 simply shows a menu for interactive selection by a user to key a branching operation in a particular area of the house with basically static indicia in the respective eight items or buttons. The only variance in the buttons is related to the color of the button to indicate whether it is in a standard state of white, a selection state of blue, or a determination state of red. See, for example Column 15, Line 35 through Column 16, Line 49.

In essence, this is the summation of the relevant teaching that *Murase et al.* relied upon in the anticipation rejection.

“‘[T]he dispositive question regarding anticipation is whether one skilled in the art would reasonably understand or infer from the prior art reference’s teaching that every claim [limitation] was disclosed in that single reference.’ *Dayco Prods., Inc. v. Total Containment, Inc.*, F.3d 1358, 1368 (Fed. Cir. 2003).

Reference can be made, for example, to our Claim 1 that specifically defines a plurality of graphics data sets, each forming a group of graphics data to render a predetermined state of graphical button materials.

In comparison, *Murase et al.*, when activating one of the eight items disclosed in Figure 8, provides a branch from the menu or particular location, where the menu “buttons” stay static and can only change in color to indicate its status, that is one of the choices possible, a possible selected state or an actual selection. Use of such three colors does not involve any animation of the button materials, nor an enhanced amusing feature as disclosed in Figure 17 and Figure 29 of our present invention. We permit a seamless reproduction within an EPOCH (see Page 19, Lines 13-19).

Each of the states of our buttons (normal state, selected state, and active state), consist of a plurality of graphics data sets in a decompressed state for purposes of animation. By setting a repeat flag, animation is enabled for presentation of the images shown in Figure 17 and described on Page 33, Lines 17-26 of our present specification. Examples of the interactive control that is capable of being performed in a Blu-ray format can be seen in Figures 12 and 13 and described beginning on Page 31, Line 22 through Page 32, Line 13.

It is respectfully submitted that each of our claim elements cannot be found within the *Murase et al.* disclosure as required for an anticipation rejection. Additionally, since the *Murase et al.* disclosure is only changing colors of static image buttons. There would be no suggestion that would render our invention obvious to a person of ordinary skill in this field.

The *Murase et al.* reference (US 5,907,658) discloses a technique for displaying button materials based on a DVD-Video application format, and when the state of the button materials changes between a normal state, a selection state and a determination state, a command corresponding to a button material is executed when the button material is determined.

In the *Murase et al.* reference, these button materials are called "items," and have a standard state, a selection state and a determination state. These states change according to operations by the user to select/determine menu items. Supplementing Figure 8 with an example, when the menu is displayed, the default operation of the disk reproduction apparatus is to display item # 1 in the selection state, and the remaining items in the standard state. If the user wishes to change the state of a menu item that is in the selection state, he/she can press one of the up, down, left or right key on the remote control of the disk reproduction apparatus to instruct a change in the selected item.

Furthermore, each of sub-picture A-101 and sub-picture A-125 is an independent interactive display. When each of these interactive displays is displayed, item # 1 is displayed in the selection state, and the remaining items are displayed in the standard state. This is a state of "initial display." The state then changes to the "update display" according to an instruction to change the selected item in response to a user operation.

The mechanism for changing the state of the button materials exists in the highlight information in the management pack. The "item color information" in the highlight information is information showing a selection color and a determination color as shown by the reference numeral b6 in Fig. 10B. The selection color is the color given to an item selected by the user, and the determination color is the color given to an item that the user has performed a determination operation with respect to. There are three different combinations of selection colors and determination colors, each consisting of a designation of the two colors and a mixture ratio for the background color.

The highlight information has item information corresponding to each item. The "item color information" in the item information designates a color pattern of the selection color and determination color included in the item color information. A "start coordinate X1" a "start coordinate Y1" an "end coordinate X2" and an "end coordinate Y2" indicate the range of an area where the specified color and mixture ratio are applied to when an item is selected or determined by the user.

As can be seen from the above, the DVD-Video application in the *Murase et al.* reference defines, in the management pack, a combination of a color and a mixture ratio designated by the "color pattern number," and the state of the button material is changed based on this combination.

In a DVD, a period during which an interactive control is valid corresponds to a period of a VOB, which functions as a GOP of the video stream. See *Murase et al.*, Column 11, Lines 51-57. However, in a BD-ROM, such a valid period can be set arbitrarily by means of PTS and DTS in ICS included in an Epoch. Therefore, the interactive control by means of a BD-ROM is not in dependence relation with a GOP. See our specification, Page 50, Line 9 to Page 51, Line 10.

The *Murase et al.* reference and the present invention differ in the following four ways.

Firstly, the structure of the streams differs. In the *Murase et al.* reference, it is "VOBs (video objects)" that are equivalent to a stream. The VOBs simply include sub-picture data that compose button materials (items) in an interactive display. On the other hand, the graphics stream in the present invention includes a plurality of graphics data sets. Each set of graphics forms a group of graphics data which renders a predetermined state of the graphical button materials. The plurality of graphics data sets respectively render different predetermined states of said graphical button materials with Blu-ray format.

The stream in the *Murase et al.* reference, while including sub-picture data that composes button materials on the interactive display, does not include groups corresponding to the states of the button materials. In other words, the stream in the *Murase et al.* reference does not include the graphics data groups of the present invention.

Secondly, the way in which changes in the states of the buttons are realized differs. In the *Murase et al.* reference, the "item color information" indicates combinations of the section color and the determination color. The "color pattern number" in the item information specifies a combination of a selection color and a determination color included in the item color information. With this specification of color patterns, the range of an area in the GUI screen

defined by “start coordinate X1,” “start coordinate Y1,” “end coordinate X2” and “end coordinate Y2” is converted to the color and mixture ratio specified by the “color pattern number.” See *Murase et al.*, Column 16, Lines 53-63.

In contrast, in the present invention, since graphics data sets corresponding to each state of the button materials exist in the graphics stream, if a user operation occurs while the interactive display is being displayed, a change of state is realized by extracting graphics data from the one of the graphics data sets that corresponds to the current state and using the extracted graphics data for display. The *Murase et al.* reference simply discloses a technique for changing the state of a button material by converting the range of an area in the GUI screen defined by “start coordinate X1,” “start coordinate Y1,” “end coordinate X2” and “end coordinate Y2” to the color and mixture ratio specified by the “color pattern number.” The *Murase et al.* reference fails to make an disclosure about using a graphics data set to realize a change in a button material such as animation.

Thirdly, the display content when the state changes differs. In the *Murase et al.* reference, given that the change in the state of the button materials is defined by the combination of the color and mixture ratio specified by the “color pattern number,” the display content of the button materials is of a simplistic nature, namely changing the color of the button materials or making the button materials brighter or darker in response to a user operation. This is uninteresting. The change in state of the button materials in the present invention is made by extracting and displaying graphics data from a graphics data set corresponding to the current state and, therefore, the images of the button materials can be different in each state. In addition, by displaying the graphics included in the graphics data sets, the images of the button materials in each state can be changes such as animation. If the animation is a character who appears in



the movie work, the user can change the facial expressions or movements of the character by performing an operation with respect to the interactive display. Displaying animation in this manner realizes an interactive display that can be enjoyed by children.

The display content in the *Murase et al.* reference is based on the combination of the color and mixture ratio specified by the "color pattern number," and is of a simplistic nature, namely changing the color of the button materials or making the button materials brighter or darker in response to a user operation. As such, the *Murase et al.* reference fails to make any disclosure relating to the display content in the present invention.

As has been described, the stream structure, the way of changing the state, and the display content when changing the state in the *Murase et al.* reference are completely different from the present invention, and it can teach the technical feature of the present invention. Accordingly, the novelty of the present invention should not be denied based on the *Murase et al.* reference. The technical feature of the present invention is a significant step forward from the interactive control taught in the *Murase et al.* reference.

It is respectfully submitted that the original Claims 1, 5 and 9-11 are now more than adequately distinguished over the *Murase et al.* reference.

Additionally, the newly drafted Claims 12-14 are also distinguishable over the *Murase et al.* reference. Claims 12 and 14 further define the animated feature that is possible through a unique set of a plurality of graphics data sets capable of performing both an initial predetermined state of the buttons and rendering different predetermined states as an animated feature within a button.

Newly drafted Claim 12 is in a Blu-ray format and is consistent with the requirements of MPEP §2106.01, "Descriptive material can be characterized as either 'functional descriptive

material’ or ‘nonfunctional descriptive material.’” Unlike music, literary works, and a compilation or mere arrangement of data which qualify as “nonfunctional descriptive material,” the data structure recited above in Claim 12 clearly constitutes “functional descriptive material” since such data structure imparts functionality to provide an animated button feature overlaid on a movie on a display device when processed by a computer program. Moreover, Claim 12 recites that the data structure includes a movie video stream and a graphics stream, and Claim 12 further recites specific patentable features of such graphics stream. Thus, the data structure including the particular features of the graphics stream recites in Claim 12 clearly is not music, a literary work, or a compilation or mere arrangement of data, but is functional descriptive material.

See MPEP §2106.01 (Revision 6 of Eighth Edition, September 2007) which states:

“Both types of “descriptive material” are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1954) (discussing patentable weight of data structure limitations in the context of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency) and *In re Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) [emphasis added]”

Thus, independent Claim 12 clearly recites functional descriptive material data structure) encoded on a computer readable medium which produces a useful, concrete and tangible result (e.g., provide a video output on a display device as a result of the data structure being processed by a computer program). As such, it is submitted that independent Claim 12 clearly recites statutory subject as per *In re Warmerdam* and *In re Lowrey* as discussed in MPEP §2106.01.

New Claim 14 calls for a reproduction system and includes a display means for providing interactive animated display of graphical button material by using our specific graphics data in accordance with 35 U.S.C. §112, sixth paragraph.

The MPEP §2182 states that “application of a prior art reference to a means or step plus function limitation requires that the prior art element perform the identical function specified in the claim. However, if a prior art reference teaches identity of function to that specified in a claim, then...an examiner carries the initial burden of proof for showing that the prior art structure or step is the same as or equivalent to the structure, material, or acts described in the specification which has been identified as corresponding to the claimed means or step plus function.” The “means or step plus function” limitation should be interpreted in a manner consistent with the specification disclosure. *See In re Donaldson Co.*, 16 F.3d 1189, 29 USPQ2d 1845 (Fed. Cir. 1994).

In summary, the *Murase et al.* reference simply teaches a simplistic graphical button material of a static nature, where only the color is changed to indicate a button status on the menu. The closest any similarity to applicant's disclosure would be Figure 10B also in applicant's drawings, where only color value can be provided.

It is readily apparent from applicant's disclosure and drawings that we are providing a unique plurality of graphics data sets that can configure a reproduction system to permit an animation of indicia such as a character's face in a movie, while saving computational time.

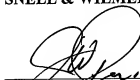
The *Murase et al.* reference does not recognize nor address this issue, nor does it teach a Blu-ray formatted recording medium.

It is believed that each of the present claims are in now in condition for allowance and early notification of the same is requested.

If the Examiner believes a telephone interview will help further the prosecution of the case, the undersigned attorney can be contacted at the listed telephone number.

Respectfully submitted,

**SNELL & WILMER L.L.P.**



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Joseph W. Price  
Registration No. 25,124  
600 Anton Boulevard, Suite 1400  
Costa Mesa, CA 92626  
Telephone: (714) 427-7420  
Facsimile: (714) 427-7799